

23. The method of claim 22, wherein the connecting material includes the structured elements.

24. The method of claim 23, wherein the structured elements are mixed in a material comprising flux prior to being combined in the connecting material.

25. The method of claim 23, wherein a third electrode is formed on the substrate, and the connecting material generates an electrical connection between the first electrode and the third electrode.

26. The method of claim 23, wherein the structured elements make up about 1 to 10% volume content of the connecting material.

27. The method of claim 23, wherein the structured elements make up about 2% volume content of the connecting material.

28. The method of claim 21, wherein the maximum dimension of the structured elements is determined by screening a sample of structured elements to remove all structured elements having a dimension greater than a predetermined dimension.

29. The method of claim 28, wherein screening of the structured elements removes structured elements having a dimension greater than about 25 microns.

30. The method of claim 21, wherein the predetermined dimension is about 20 to 80 microns.

31. The method of claim 22, wherein the first electrode is mounted to the substrate at two separate locations.

32. The method of claim 20, wherein the first electrode is mounted to the substrate at a single location.

33. The method of claim 21, further comprising the steps of electrically connecting the first or second electrode to a constant voltage source, and electrically connecting the first or second electrode not electrically connected to the constant voltage source to an amplifier, wherein the change in capacitance relates to a change a current flowing from the constant voltage source to the amplifier.

34. The method of claim 22, wherein the substrate is a printed circuit board with electrical traces formed thereon, and the method further comprises the step of electrically connecting the first and second electrodes to separate traces.

35. The method of claim 21, further comprising the step of forming a dimple in a surface of the first electrode.

36. A capacitive force-based touch sensor assembly, comprising:

a frame;

a touch sensitive surface; and

multiple force activated devices positioned between the touch sensitive surface and the frame for detecting an applied force to the touch sensitive surface due to a touch input, each device comprising:

first and second electrodes spaced apart a predetermined distance from each other when in a rest position, a measurable capacitance existing between the first and second electrodes;

structured elements having a predetermined maximum dimension positioned between the first and second electrodes to control the predetermined distance;

whereby the applied force causes a change in the direction between the first and second electrodes and a related change in the capacitance, and the change in capacitance of each device can be measured to

determine information related to the location of the touch input to the touch sensitive surface.

37. The sensor assembly of claim 36, further comprising a seal membrane that forms a seal between the frame and touch sensitive surface, and the assembly is functional as self-contained unit.

38. The sensor assembly of claim 36, wherein each force activated device is preloaded with a force, and a touch input to the touch sensitive surface unloads the devices.

39. A monitor having force-based touch capabilities, the monitor comprising:

a screen; and

a force activated device positioned adjacent the screen for detecting an applied force to the screen, the device comprising:

first and second electrodes spaced apart a predetermined distance from each other when in a rest position, a measurable capacitance existing between the first and second electrodes;

structured elements having a predetermined maximum dimension positioned between the first and second electrodes to control the predetermined distance;

whereby the applied force causes a change in the distance between the first and second electrodes and a related change in the capacitance that can be measured to determine information related to the applied force.

40. A connecting material for use in a capacitive device capable of detecting differences in an applied force over a continuous range of applied force including zero force, the device including opposing first and second electrodes mounted to a substrate and spaced apart a predetermined distance when in a rest state, the sensor having a capacitance controlled by the relative spacing between the first and second electrodes, the connecting material comprising:

curable material; and

structured elements mixed within the curable material, the structured elements having a predetermined dimension;

whereby the connecting material is used to mount the first electrode to the substrate to control the predetermined distance with the structured elements.

41. The connecting material of claim 40, wherein the curable material comprises a conductive solder material.

42. The connecting material of claim 40, further comprises a flux material, wherein the structured elements are mixed in the flux prior to being combined with the curable material.

43. The connecting material of claim 40, wherein the structured elements are make up no less than about 1% volume content of the connecting material.

44. The connecting material of claim 40, wherein the structured elements are spherical shaped.

45. The connecting material of claim 40, wherein the curable material is an adhesive.

46. The connecting material of claim 40, wherein the structured elements comprising electrically conductive material.